Jan. 18, 1966 D. E. DE ROSSI 3,229,688

THERAPEUTIC TABLE WITH MEANS FOR ROTATING A PATIENT'S HEAD

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FIG 2

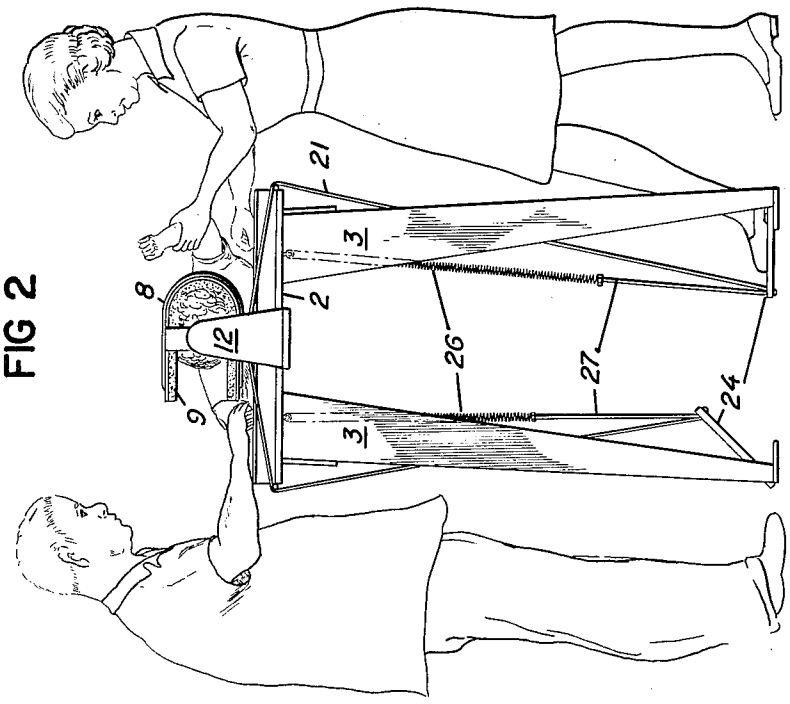
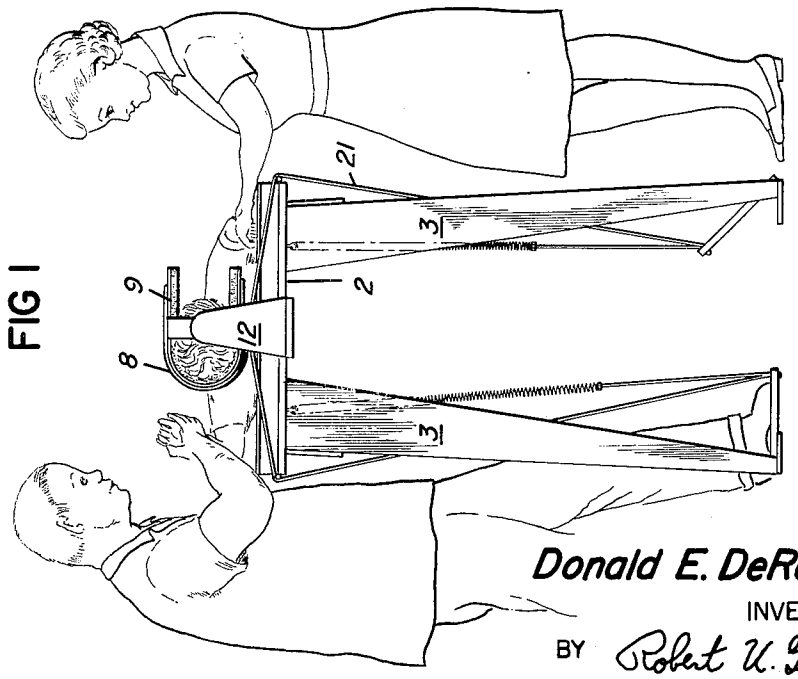


FIG 1



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FIG 4

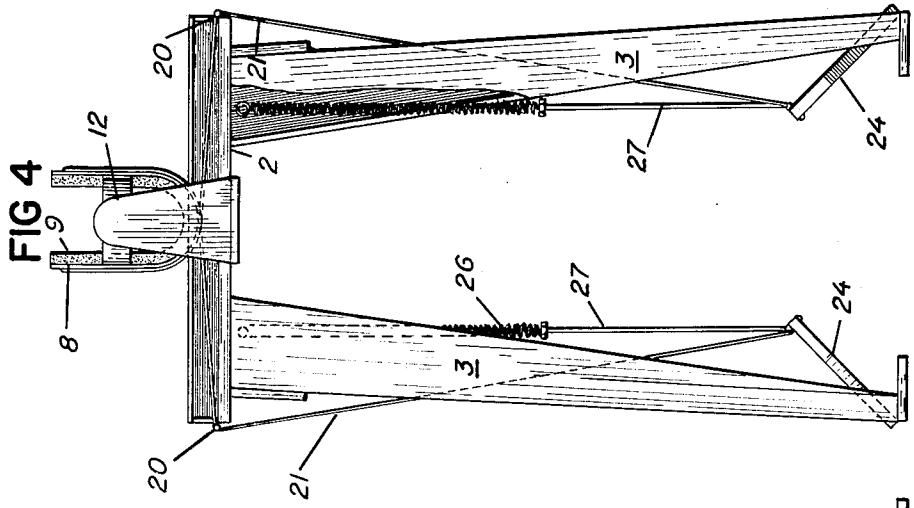
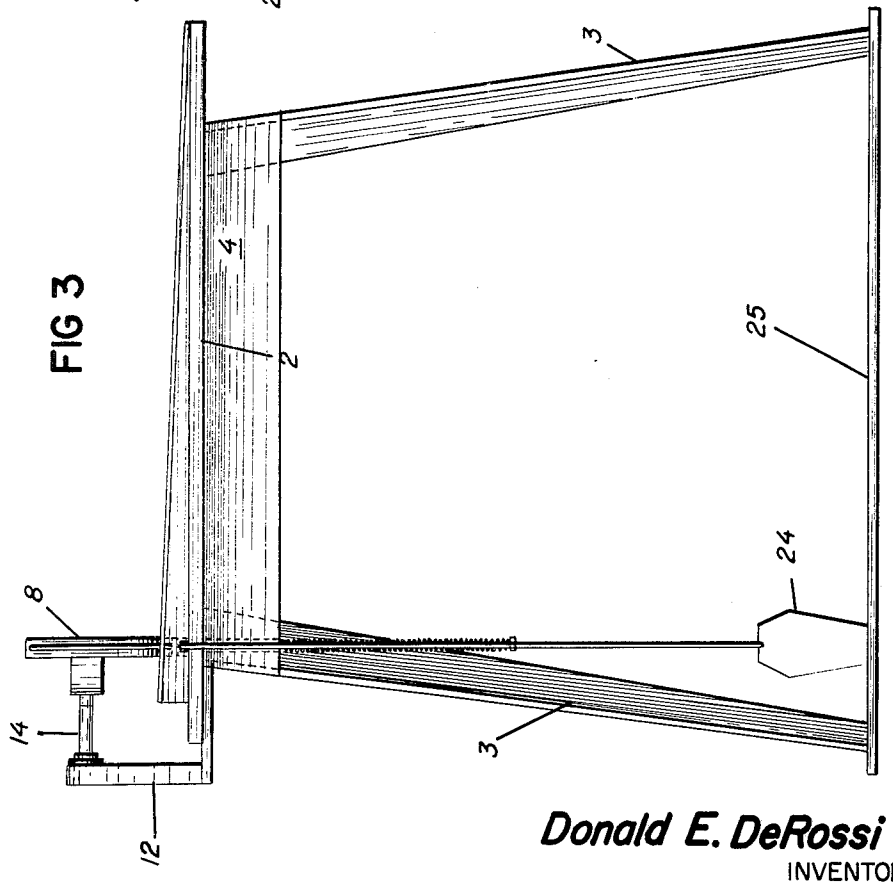


FIG 3



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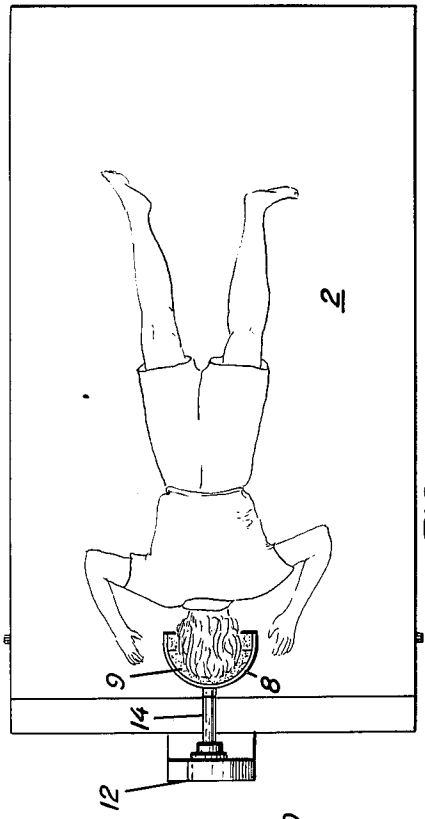


FIG 6

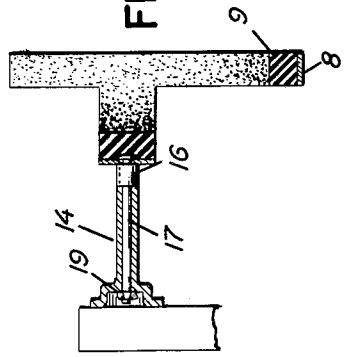


FIG 7

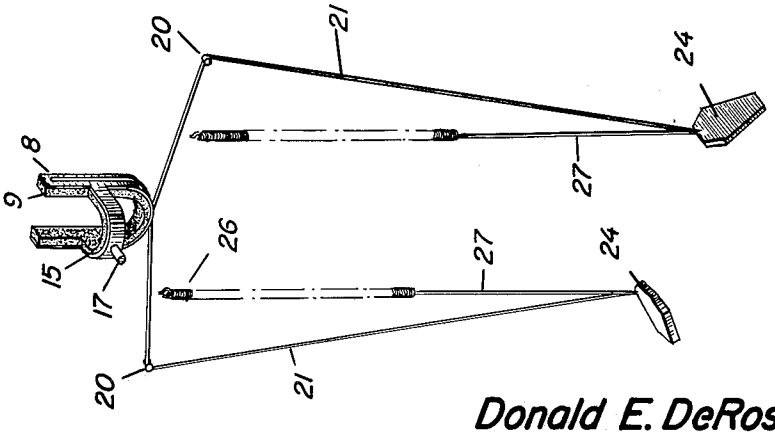


FIG 5

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3,229,688

THERAPEUTIC TABLE WITH MEANS FOR ROTATING A PATIENT'S HEAD

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Filed June 20, 1963, Ser. No. 289,299
3 Claims. (Cl. 128—25)

This invention relates to therapeutic devices and more particularly to devices for treating patients with either disease, anomaly, or trauma to the brain or spinal cord (upper motor neuron lesion).

In fairly recent years there has been developed a form of treating ailments of the type referred to immediately hereinbefore which is known as "patterning." It involves a variety of different motions imparted to the patient's body, usually passive in nature, and performed in the hope of re-educating other areas of the brain to substitute for the damaged area or areas. When any of the cells of the upper motor neuron tracks are destroyed, they cannot be brought back to life; and the rationale behind patterning is to re-educate unused brain cells and neuron tracks to instill motion, strength, co-ordination, or decrease in spasticity needed.

In past years patients with affliction of this type were treated with braces, drugs for muscle relaxation, surgery to lengthen spastic muscles or muscle transfers, etc. Usually these procedures produced very poor results. The difficulty with them was that the affected part was being treated and not the area causing the trouble; which was either the brain or spinal cord.

With patterning, the cause is treated by re-educating in a developmental sequence. For example, when a child is born, it does not get up and walk immediately, but rather learns to walk through a sequence of different activities, such as rolling, creeping, crawling, etc. Patterning helps the patient to do just this. The patterns are changed as the patient's coordination and strength increase and as there is development from one stage to another. By means of such treatments dramatic and successful results have been obtained.

When patterning a child usually three persons are required to perform the manipulations. In the case of a large child or adult, five persons would be required. In the case of the usual three-person team, one person controls the head by turning it from side-to-side slowly; and the other two follow the head, one manipulating the left arm and leg and the other manipulating the right arm and leg. When five persons are employed, one takes the head while each of the four others take an arm or a leg. With this personnel any combination of patterns can be performed.

Patterning, to be effective, must be done daily and with a minimum of four patterns at five minutes each. Usually it is extremely difficult to secure reliable persons to help conduct or perform the patterns. This is particularly so in bad weather; and even the best of friends or relatives soon tire of the routine.

It is the prime object of the present invention to provide a simple and easily operated device for enabling the satisfactory performance of patterning steps with a minimum number of persons.

Another object is the provision of a device of the type referred to which is both durable and inexpensive.

These together with other objects and advantages which subsequently will become apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is an end elevation of the device of the present invention as operated by two persons and illustrating a patient in position to be given patterning treatments;

FIGURE 2 is a view similar to FIGURE 1 but illustrating another step in the operation of the device;

FIGURE 3 is a side elevational view of the device as illustrated in FIGURE 1;

FIGURE 4 is an end elevation with the elements of the device shown in a position which is midway of that of FIGURE 1 and FIGURE 2;

FIGURE 5 is a diagrammatic development of certain of the operating elements of the device;

FIGURE 6 is a plan illustrating a child lying face downward on the treating table with its head disposed in the head-contacting portion of the device; and

FIGURE 7 is a fragmentary view, partly in section, of a structural detail.

Referring more particularly to the drawings, the numeral 2 designates the table portion of the device which supports the patient during the patterning treatments, the same being in turn supported by the usual table legs 3 which are suitably braced, as shown at 4.

The most important single element of the device is the head-halter 8, since the action of the patient's head is the only motion that is uniform throughout the patterning steps or sequences. More specifically, the head halter 8 comprises a U-shaped member formed of suitable metal or plastic and which is provided with an interior resilient lining 9 for contacting the head of the patient around the area of the ears or slightly thereabove.

Disposed at one end of the Table 2 is a vertically disposed block or mounting 12 which supports a right-angularly projecting tube 14. This tube 14 which is secured to the vertical block or mounting 12 extends inwardly for a sufficient distance to terminate adjacent the top of the head of a patient lying on the Table 2.

To the mid-portion of the U-shaped head halter 8 there is secured a transversely extending semi-circular bracket 15 carrying a collar 16 which is adapted for alignment with the tube 14 which is secured to and projects from the vertical block or mounting 12.

An elongate bolt 17 extends through both the collar 16 and the tube 14 to screw-threadedly engage a nut 19 which is secured to the inner end of the latter. In this manner, the head halter 8 may be easily detached from the tube 14 and replaced with one of another size, etc.

A pulley 20 is mounted at either side of the table 2, and in alignment with the head halter 8, each of the said pulleys 20 being adapted to receive a cord 21 that depends downwardly and is secured to the projecting end of a pivotally mounted pedal 24. These pivotally mounted pedals 24 are shown as mounted on a pedal board 25 which extends beneath and connects the lower ends of the adjacent legs 3. As shown most clearly in FIGURE 4, the pivotally mounted pedals 24 extend inwardly beneath the table 2 and are resiliently influenced upwardly by springs 26 that are attached to the bottom of the table and secured to the adjacent ends of the pedals by connecting rods 27 which are preferably adjustable in length.

Each of the cords 21 is trained over one of the pulleys 20, passes beneath the head halter 8 and is secured to the opposite side of the latter in any convenient manner. By means of this arrangement, the depression of one of the pedals 24 will partially rotate the head halter 8 in one direction with the other pedal imparting partial rotation in the other direction, as illustrated in FIGURES 1 and 2.

From the foregoing it will be seen that with an operator standing on either side of the table 2 and adjacent the head halter 8 the foot of each operator may be utilized to partially rotate the patient's head in one direction while

leaving both hands free to manipulate the adjacent arm and/or leg of the patient.

With children it is particularly important that at least one parent be present at each patterning operation because the child needs the confidence instilled by the presence of a parent.

Due to the construction and arrangement of the elements of the device of the present invention its cost of manufacture will readily permit its being a household item as distinguished from complex and expensive apparatus intended for professional use only; and as a household item the parents and other members of the patient's family are readily and frequently available to assist in performing the patterning sequences.

The term "cord" as used herein is intended as synonymous with "rope," "cable," "wire," etc.

While I have shown and described certain specific embodiments of the present invention, it will be readily understood by those skilled in the art that I do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of the invention as defined in the appended claims.

I claim:

1. A unitary device for partially rotating the head of a prone patient and permitting an attendant at either side thereof to therapeutically manipulate the adjacent arm and leg of the patient; said device comprising, in combination, a substantially horizontal table; a longitudinally extending shaft mounted on and disposed above said table; said longitudinally extending shaft being at least partially rotatable; a head halter for receiving the head of the patient lying on and extending longitudinally of said table; said head halter being secured to said longitudinally extending shaft; a foot-operated pedal at either side of said table; and means operable by said pedals for imparting partial rotation to said longitudinally extending shaft; one of said pedals being adapted, when depressed, to partially rotate said head halter in one direction, the other of said pedals being adapted, when depressed, to partially rotate said head halter in the opposite direction.

2. The combination of claim **1** wherein the operative connection between said pedals and said head halter includes a rope-and-pulley drive.

3. The combination of claim **1** wherein the operative connection between said pedals and said head halter includes a rope-and-pulley drive; and resilient means for resisting the depression of said pedals.

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